

What is claimed is:

1. A head cap comprising:

a cap base;

an absorbing material housing part which is formed on a surface of said cap base;

a function liquid absorbing material which is disposed inside said absorbing material housing part;

an absorbing material urging member which urges the function liquid absorbing material;

a sealing member which is formed so as to come into intimate contact with a nozzle surface of a function liquid droplet ejection head; and

a seal fixing member which fixes said sealing member to said cap base;

wherein said sealing member is fixed to said cap base in a state in which said absorbing material urging member is urged.

2. The head cap according to claim 1, wherein said absorbing material housing part comprises a loop-shaped peripheral portion which defines a recessed groove and which projects beyond said cap base, said recessed groove being filled with the function liquid absorbing material, and wherein a peripheral portion of said absorbing material urging member is seated on said loop-shaped peripheral portion.

3. The head cap according to claim 1, wherein said absorbing material urging member is formed into a small thickness and comprises: a frame-shaped part which urges the peripheral portion of said function liquid absorbing member; and a lattice-shaped part which urges an intermediate portion thereof.

4. The head cap according to claim 3, wherein said frame-shaped part and said lattice-shaped part are formed integral with each other.

5. The head cap according to claim 1, wherein said absorbing material urging member is formed of a stainless steel.

6. The head cap according to claim 1, wherein said sealing member is integrally formed of: a loop-shaped projecting part which comes into intimate contact with said nozzle surface; a loop-shaped urging part which urges said absorbing material urging member; and a loop-shaped fixing part which is fixed to said cap base, and wherein said loop-shaped urging part is formed on a back surface side of said loop-shaped projecting part.

7. The head cap according to claim 6, wherein said seal fixing member is formed into a loop shape and is screwed to said cap base in a state in which said loop-shaped fixing part of said sealing member is urged against said cap base.

8. The head cap according to claim 1, further comprising: a cap holder which slidably supports said cap base in a direction of close adhesion; and a spring which urges said cap base, with said cap holder serving as a receiver, wherein said cap holder has formed therein a restricting projection part which restricts a position of said cap base in a slightly inclined state relative to said cap base against said spring.

9. A liquid droplet ejection apparatus comprising:  
a head cap as set forth in claim 1;  
the function liquid droplet ejection head;  
an approaching and departing mechanism for relatively moving said head cap toward, and away from, said function liquid droplet ejection head; and  
a suction mechanism for sucking a function liquid from said function liquid droplet ejection head through said head cap which is connected to, and adhered to, said head cap.

10. A method of manufacturing a liquid crystal display device in which a multiplicity of filter elements are formed on a substrate of a color filter by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:  
introducing a filter material of each color into said function liquid droplet ejection head;  
performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and  
selectively ejecting the filter material to thereby form the multiplicity of filter elements.

11. A method of manufacturing an organic EL device in which an EL light-emitting layer is formed on each of a multiplicity of pixels on a substrate by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:  
introducing a light-emitting material of each color into said function liquid droplet ejection head;  
performing a relative scanning between said

function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the light-emitting material to thereby form the multiplicity of EL light-emitting layers.

12. A method of manufacturing an electron emission device in which a multiplicity of fluorescent bodies are formed on electrodes by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:

introducing a fluorescent material of each color into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the fluorescent material to thereby form the multiplicity of fluorescent bodies.

13. A method of manufacturing a PDP device in which a fluorescent body is formed in each of a multiplicity of recessed portions on a rear substrate by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:

introducing a fluorescent material of each color into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and the rear substrate through said head unit; and

selectively ejecting the fluorescent material to thereby form the multiplicity of fluorescent bodies.

14. A method of manufacturing an electrophoretic display device in which an electrophoretic body is formed in each of a multiplicity of recessed portions on an electrode by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:

introducing an electrophoretic material of each color into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and said electrode through said head unit; and

selectively ejecting the electrophoretic material to thereby form the multiplicity of electrophoretic bodies.

15. A method of manufacturing a color filter in which a multiplicity of filter elements are arrayed on a substrate by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:

introducing a filter material of each color into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the filter material to thereby form the multiplicity of filter elements.

16. The method of manufacturing a color filter according to claim 15, in which an overcoat film is formed for coating the multiplicity of filter elements, said method further comprising:

introducing a translucent coating material into

said function liquid droplet ejection head after having formed the filter elements;

performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the coating material to thereby form the overcoat film.

17. A method of manufacturing an organic EL in which a multiplicity of pixels inclusive of EL light-emitting layers are arrayed on a substrate by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:

introducing a light-emitting material of each color into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the light-emitting material to thereby form the multiplicity of EL light-emitting layers.

18. The method of manufacturing an organic EL according to claim 17, in which a multiplicity of pixel electrodes corresponding to the EL light-emitting layers are formed between the multiplicity of EL light-emitting layers and the substrate, said method comprising:

introducing a liquid electrode material into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the liquid electrode material to thereby form the multiplicity of pixel electrodes.

19. The method of manufacturing an organic EL according to claim 18, in which an opposite electrode is formed to cover the multiplicity of EL light-emitting layers, said method further comprising:

introducing a liquid electrode material into said function liquid droplet ejection head after having formed the EL light-emitting layers;

performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the liquid electrode material to thereby form the opposite electrode.

20. A method of forming a spacer in which a multiplicity of particulate spacers to constitute a minute cell gap between two substrates by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:

introducing a particulate material constituting the spacers into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and at least one of the substrates through said head unit; and

selectively ejecting the particulate material to thereby form the spacers on the substrate.

21. A method of forming a metallic wiring in which a metallic wiring is formed on a substrate by using the liquid droplet ejection apparatus as set forth in claim

9, said method comprising:

introducing a liquid metallic material into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the liquid metallic material to thereby form the metallic wiring.

22. A method of forming a lens in which a multiplicity of micro-lenses are formed on a substrate by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:

introducing a lens material into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the lens material to thereby form the micro-lenses.

23. A method of forming a resist in which a resist of an arbitrary shape is formed on a substrate by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:

introducing a resist material into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the resist material to thereby form the resist.

24. A method of forming a light diffusion body in which a multiplicity of light diffusion bodies are formed on a substrate by using the liquid droplet ejection apparatus as set forth in claim 9, said method comprising:

introducing a light diffusion material into said function liquid droplet ejection head;

performing a relative scanning between said function liquid droplet ejection head and the substrate through said head unit; and

selectively ejecting the light diffusion material to thereby form the multiplicity of light diffusion bodies.